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412 assai). These sieves are identical with those of the Neobrazilians and are probably borrowed from them. The original type of Tukuna sieve is perhaps the round one found occasionally even today; it fits better in the mouths of the jars used in straining the pulp from which beverages are made, the original purpose of these sieves.

The paddle for stirring manioc flour in the oven is the same as that used by the [171] Neobrazilians—a small board attached to a long stick, if it is not just some old canoe paddle. For turning cassava (*mandioca*) cakes in the oven the Tukuna use a small board shaped like a segment of a circle, almost invariably a broken section [285] of an old canoe-paddle blade. Flour is kept in cylindrical openwork baskets woven [251] of uarumã in an open-mesh technique, lined with leaves that also seal the top, and tied by a plait of cipó. This is the common form also used by the Neobrazilians.

In the kitchen there are always a number of small four-legged benches, ũu/ma'vᵋ 352 (fig. 4, *b*), rectangular or oval in shape, each carved entirely from a single piece of wood. Sometimes they are made in the form of a tortoise, *jabotí* (*Emys tabulata*) (pl. 9, *c*), and they are always made with some cunning. They are never more than [362] ten centimeters high. These benches are used exclusively by men while partaking of refreshments, whereas the women sit on the floor.

Cleanliness.—The house as well as the kitchen is usually clean, since both are 356 swept out at least once daily with a broom made of the leaf ribs of small *tucumã* leaves left over from the fibers used in making thread. The Tukuna do not tolerate a stink in the house or in the kitchen. They immediately remove excreta of domestic [412] animals or of small children, including the soiled portion of the earth, with the [231] point of a short, broad blade.[1] This scrupulousness is the main reason why these Indians have a distaste for raising chickens and never keep pigs.

Neither dog fleas nor chiggers (*Pulex penetrans; bicho de pé*) become annoying [136] in Tukuna houses, but cockroaches, crickets, and tracuá ants are most disagreeable. These last, above all, immediately swarm over any food not on the grill while the fire is burning and invade baskets and trunks with irritating persistency. The Indian chief Calixto daueru'kị fought this plague in Igarapézinho by thrusting thick reeds, open at one end, into the house thatch. In a short time the insects would build their nests in these reeds and, when the reeds were filled, he would shake them out over the fire and again insert the reeds in the thatch.

Communication between Settlements

487 Formerly, communication between isolated settlements was mainly by land, since the Tukuna, in contrast to the Omágua, were foot Indians, not canoe men. All the igarapés (tributaries of the left bank of the Solimões) inhabited by these Indians were connected by trails; likewise the different houses along a particular igarapé. Castelnau mentions these paths,[2] which connected the Tukuna habitations of the interior from Caldeirão (Belém) to Tabatinga and Loreto. With the development of navigation many of these trails were abandoned, although some are used even today.

501 Originally, the Tukuna practiced little navigation, being isolated in their jungle 177 centers on solid ground by the Omágua, their superiors in warfare. They had only

[1] *Terçado*, lit., a short, broad sword; probably the machete or *facão*.—Trans.
[2] Castelnau, p. 50.

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248 Another plant that formerly furnished fibers is the mɔɔ'vị (*Bromelia* sp.; l.g., *curauá*);[a] they served especially for bowstrings and for lashing arrows.

[415] According to Bates the small bags (tʊ'/maka) with carrying strap were made of bromelia threads;[b] in them the hunter carried ammunition for his shotgun, and they also served as containers for trifles at home. Today, without exception, they are made of tucum fiber (pl. 7, *c*). Nowadays bromelia is only rarely cultivated, and then on a lesser scale as a medicinal plant.

177 After the beginning of commerce with the Neobrazilians, tobacco also was cultivated less frequently, and it has almost disappeared from Tukuna clearings. Its [249] old name was pɔ:'ri. Pre-Columbian occurrence is probable, since tobacco is used in Tukuna magic ceremonies. Aside from sugar cane and bananas, the Tukuna 241 adopted from the Neobrazilians only the watermelon, vɔ'račia (from the Portu- 177 guese *melancía*), and the squash, *jurumúm* (*Cucurbita maxima*), of which they make little use.

However, they cultivate almost all the Neobrazilian fruits,[c] planting around their houses mangoes (*Mangifera indica*, Reg.), avocados (*Persea gratissima*, Gaert.), *abiú*, *atta*, *biribá*, oranges, lemons, papayas (*Carica papaya* L.), guavas (*Psidium guayava*, Raddi), cashews (*Anacardium occidentale* L.), *bacuri*, and *ingá*. It is difficult to determine whether most of these fruit trees were cultivated by the Tukuna in pre-Columbian times. The genipa and the urucú figure in the legends of culture heroes; both are found in the house yards.

249 There are a great number of medicinal plants, many of them being cultivated 278 at the border of the house yard so as to be always at hand. For poisonous snake 757 bite the Tukuna apply a liquid prepared from the scrapings of a plant called a/tapẽ-arị-eị[a] (medicine of jararáca; *Bothrops jararaca*) boiled in water; they give the victim spoonfuls of this at intervals, until the symptoms subside. If the accident occurs in the jungle, far from home, the victim chews the green leaves of a common bush, swallowing the juice in order to retard the effects of the poison.

The bulb of a cultivated plant, dyaa'-arị-eị[a] (diarrhoea medicine) or pʊ:'čul ("nightingale"), scraped and made into an infusion with cold water, is used for diarrhoea (dya'ị[a]). The dried leaves of čẽẽ-arị-ẹị (medicine for blows; čẽẽ, blows), also cultivated, are tied over bruises which break the skin. For earache, the leaves of ṅʊma'čiẽ-arị-ẹị[a] (P., *trevo rouxo*, purple trefoil) are crushed to distill the juice, which is slightly warmed with a firebrand and introduced into the ear by a leaf rolled into funnel shape. This is also a cultivated plant.

The root scrapings of ẹ/tịmaa (bitter; l.g., *gapuky*; *Martinella obovata*) a solid-ground jungle cipó, are applied in the same way for conjunctivitis. If this remedy proves ineffective, an ash from the charred tip of the Mauritia palm, curauá, is dropped into the eye; today this species is planted only for this purpose.

231 *Domestic animals.*—For domestic animals the Tukuna have only dogs, chickens, ducks, and, rarely, a cat (T., pe'cana; l.g., *pichano*). According to Tukuna belief, 235 chickens (ɔta', from the ancient Quechua, *atahuallpa*)[d] were caught somewhere in

[a] The term *curaúá* is also used for a palm (*Mauritia curana*).—Trans.
[b] Bates, 2:403.
[c] See Glossary for species and description of these fruits.
[d] Nordenskiöld, Deductions Suggested by the Geographical Distribution of Some Post-Columbian Words Used by the Natives of South America, Comparative Ethnographical Studies, 5:17 ff.

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the wild state by the first men, who raised them in their houses. Even today the Tukuna raise very few chickens, since they dislike their dirtying up the house or yard. Their forefathers had an aversion to the flesh but ate the eggs. Of the present generation no one refused to eat chicken with me, but in general they raise them only for sale to the Neobrazilians.

The plague of blood-sucking bats forces the poultry raisers to keep their wards almost always locked up at night in well-closed henhouses. These are generally conical in shape; one that I saw even had a veranda! Ducks, which are not very numerous, were recently introduced, as their name "pa'tu" (P., *pato*, duck) indicates.

With the exception of large mammals and birds of prey, the Tukuna occasionally raise at home the young of almost every species of wild animal that falls into their hands. These animals, all of which have the run of the place, generally stay only a short time in the possession of their original captors, since they are greatly sought after by the Neobrazilians. Others, upon becoming adult, turn wild or almost wild, coming and going at will from house to jungle and back again; they are given food, but no attempt is made to recapture them.

Every year, in the winter, the women and children are in the habit of raising the young of a marmoset called *leãozito* (little lion)[28] by the Neobrazilians. Sometimes two or three may be observed clinging to the hair of their mistress, who thus carries them wherever she goes, giving them masticated food from her own mouth. During the night she shelters them in a conical basket, woven in an openwork technique; it is suspended with the bottom down and is covered with tururí bark cloth, the round entrance being plugged up with a bit of rag. Although these tiny creatures cannot be raised outside this region, they are much coveted by civilized persons.

Fishing

Fishing is the principal occupation of the men, who rarely let a day pass without indulging in it. A boy is taught to fish, from childhood, accompanying his father in the canoe and maneuvering it at his command. Even at the age of six, both boys and girls pass long hours alone in the igarapé or igapó in the small canoes their fathers make for them. At the age of nine or ten many boys are already able to provide the household with the fish required.

The equipment consists of the fishhook, javelin, arrow, harpoon, and arrow-harpoon. According to Tessmann, bone fishhooks were formerly used. I did not succeed in getting data from my informants on this point. They were able to tell me only that in the old days the children used to fish for small fry with the mandibles of the *taóca* army ants (*Ecyton* sp.), called vɔ'/čata in Tukuna. If this is true, then the fish certainly must have been only very tiny and of no economic value.

However, the fishhook (pɔ'/va) figures in the legend of the culture heroes as the property of a demon much older than they (see p. 126). Nowadays the Tukuna do not go off in their canoes without taking one or more reeds with fishhooks of various sizes with which to experiment as soon as they arrive at a propitious place.

[28] Also called *leoncito*, *saguim leãozinho*, and *chichico* (*Cebuella pygmaea pygmaea*, Spix).—Trans.

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ends are notched to receive the bowstring (vẹra'-maa'|ª), which was formerly made of bromelia but is nowadays of tucum fiber. Since it has never been used much for fishing and today is not much used in hunting, the bow is being abandoned. The arrow (kɔ:'ru) is made of canna brava. Its total length is 162 cm.; the length of its four-tined point, 9 cm. It is poisoned with curare and kept in a sheath of bamboo (taboca). Its feathering, in the form of a bridge, is tangential (*Stegfiederung*). Today it is completely obsolete.

There were formerly three types of spear, of which two are still in use today. The first was a throwing spear, va:ma'gu, of paxiubinha, 263 cm. long. The poisoned tip, 16 cm. long, looked like an arrow point and, like the arrow point, was protected by a bamboo sheath. In 1929 I saw these spears still in use, but by 1941 they no longer existed. With the second type, dẽ, the Tukuna still hunt wild pigs. It is a thrusting spear some 236 cm. long, a simple staff of *marajá* wood (*Bactris* sp.), the point being produced by removal of an oblique slice from one end. The third type is even shorter, a pole, dɔ'ča, which nowadays has an iron point. It is used in hunting jaguars (onças) brought to bay by hounds.

Dogs, T., airu' (a'i, spotted jaguar, l.g., *onça pintada*), are found in nearly all the houses, but most of them are worthless for the chase, so that a hunter prefers to leave them at home. According to the Tukuna, dogs are pre-Columbian, the first having been mysteriously borne by an Indian woman.

Traps.—Formerly the Tukuna knew a number of aboriginal types of traps, most of which fell into disuse after the Indians learned how to make booby traps with firearms. One of these early traps, called "vaiᵃpara'ne," which was set up over a deer or tapir run, consisted of two strong but elastic logs, tied together vertically on a horizontal beam at a height sufficient to permit the animal to pass beneath. When the trap was set, the two logs were bent in such a way that the ends were spread apart to the sides of the trail at just the right height. The quarry, passing under the horizontal beam, would spring the trap, the two logs snapping against the animal's flanks. Since each log had three spikes on the inner surface, the game was severely wounded as well as tightly held.

For agouti (l.g., cutía) the Tukuna use even today a type of trap known as *mundé* (deadfall)—or, in Tukuna, yẹta'—under which the victim is directed by two brush fences.

For small animals accustomed to running about on the ground, the Tukuna make an enclosure in the jungle sometimes a hundred meters long, and with various openings, behind each of which they set a noose. This fence appears in one legend of the culture heroes (see p. 126) and also in the tale of the seller of a songbird, *sabié* (p. 154).

Another type of trap for catching *macucáuas* (*Tinamus* sp.), rats, and agoutis consists of a baited lasso at the end of an elastic pole (trip noose) bent over to the ground in the middle of a circular enclosure with one opening (bu:'rẽẽ). With other traps they catch doves and pigeons by setting a burden basket so that one side is slightly raised, with the bait below. In 1929 I observed a rattrap in the form of a small box with a trip door; I suppose, with Tessmann, that this variant was introduced through contact with the Neobrazilians.

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CULTURE

SUBSISTENCE ACTIVITIES

241 **Farming.**—The main *Tucuna* crops are bitter manioc, sweet manioc (macaxera), cara (*Dioscorea*), and maize. The last is planted with some ceremony. There are also at least three species of edible tubers which are not used by civilized people.

226 227 **Fishing and hunting.**—Fish, of great importance to the *Tucuna*, are taken with four- to nine-pronged javelins, arrows, harpoon arrows, baskets, weirs, traps, and a drug made of timbó. The Indians fish almost daily from childhood. On the Solimões, they are expert fishers of pirarucú, an important article of commerce.

224 177 411 Hunting today is unimportant, since game has been depleted to fill the demand for hides. The *Tucuna* now use firearms, but formerly employed the bow and arrow, spear, and blowgun. They also use pitfalls and several types of snares and traps. The blowgun, once the principal weapon, is disappearing.

222 262 [245] **Gathering.**—The wild burity, bacaba, patauá, and açahy palms are of great economic value. Some *Tucuna* plant Brazil nut trees near their houses. They eat certain frogs, Coleoptera larvae, and female red ants at hiving time. They like wild honey but keep no bees.

231 **Domesticated animals.**—The *Tucuna* raise a few chickens, but do not want hogs or other domestic animals because they dirty the premises. They keep young wild mammals and birds uncaged.

412 252 [177] [434] **Food preparation.**—Instead of a mortar, the *Tucuna* use a trough with a half-moon-shaped rocker of thick and heavy wood.

The making of manioc flour, introduced by the Neo-Brazilians, became one of the principal sources of income among the *Tucuna*.

HOUSES

342 The old houses had a small rectangular central portion with a short ridge pole mounted on props. Each end was semicircular, so that the ground plan was oval or nearly round. The walls were of a man's height, and were made of boards of paxiuba or of straw. The house could be sealed tight against mosquitoes. Families occupied the lateral corridors, the central space being reserved for ceremonies. All houses were spacious and well built.

177 342 352 513 The introduction of mosquito nets made house walls unnecessary. People slept on bunks along the walls, covered with mosquito nets, instead of in hammocks. Many houses were built without the semicircular extremities but with a longer central part, being like an open rectangular ranch house with a ridge pole. When the tribe occupied the flood plains of the shores and islands, they built houses on piles.

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291 Men formerly wore a belt with one apron of turury inner bark in
[174] front and another behind. The penis was stuck under the belt. Women perhaps at first went about entirely nude, but later adopted a short cloth of turury or of woven cotton, wrapped around the hips. Men wore
301 bracelets with long feathers and necklaces of teeth (pl. 65, *bottom*). At
292 feasts chiefs wore a cap of feathers mounted on a cotton or *Bromelia* net, or large diadems.

MANUFACTURES

532 **Bark cloth.**—Various masks and zoomorphic figures are made of bark
287 cloth (pl. 64).

Basketry.—Clothes baskets are made of uarumã stalks with a round
285 opening closed with a lid. Four points are drawn up and down over the lid and the bottom, the latter serving as legs. Other baskets have a flat square lid and bottom. Both types of baskets are made in all sizes, from 2 to 16 inches (4 to 40 cm.) in diameter. Burdens are carried
[482] in large conical baskets hexagonally woven of liana, or in cylindrical baskets of uarumã stalks. These are supported by an embira-fiber tumpline. The *Tucuna* also use pouches of looped tucum threads.

323 **Pottery.**—Women and sometimes men still make bowls, dishes, pans,
[531] and pots of clay, which are decorated with painted or modeled ornaments.
[776] Potter's clay is gathered according to certain rules so as not to anger its owner, a water demon who appears in the shape of the western rainbow.

415 **Gourds.**—Gourds are covered with a black lacquer, and may bear de-
531 signs in indelible red pigment. Wooden spoons are carved, sometimes in fantastic shapes.

Weapons.—The bow is 6½ feet (2 m.) long with the ends notched to
411 hold the string. It is now rare, even as a fishing weapon. The hunting arrow has a poisoned wooden head and feathering of the arched type. Arrows are 5 feet 4 inches (1⅗ m.) long. Spears have three types of points: (1) a poisoned, wooden point with four corners; (2) an iron point; and (3) a plain pointed stick. The last two are still used to hunt jaguars and peccaries. The *Tucuna* blowgun is over
[278] 10 feet (3 m.) long, and the darts 1 foot (30 cm.) long. The poison
[178] is the most effective of any made in the Amazon Basin, but its manufacture, which requires much time and care, is now being forgotten.
[231] Hunting dogs, which are of little use, are, according to tradition, pre-
[173] Columbian.

SOCIAL AND POLITICAL ORGANIZATION

181 The *Tucuna* are industrious and hard working, kind to their friends, honest, patient, and hospitable. But they are more liable than other Indians
[762] to great outbursts of sudden anger, a trait which sometimes leads them to suicide. This is a manifestation of their individualism and desire to live

4: Marcoy T-5 (ca. 1865) 1875 SQ20 Tucuna SQ20

the canoe and rowed vigorously home, and soon laid her insensible husband in a hammock.

This heroic act had occurred some two hours only before we arrived at the Ticuna's dwelling, whither we had gone impelled by hunger. The virago, although occupied in providing us with bananas and other food, described the affair to our men without either gesture or emotion, indeed, just as if the matter under consideration was an occurrence of the most ordinary kind. Whilst I was making a crayon sketch of the Amazon, my host, whose acquaintance with surgery equalled that of the best surgeons, soaked his cotton handkerchief in rum, sprinkled it with salt, and wrapped it round the head of the Ticuna, who was lying in his hammock burning with fever. I have no knowledge of what followed.

On the same day I purchased of a hideous, old, black, bent, wrinkled, and withered Ticuna woman, who was almost naked, a little tapir that she had reared, and who whistled more shrilly than a post-boy. The price I paid was a necklace of yellow glass beads which the old woman put round her neck with a hideous grimace of coquetry. My pachydermatous acquisition, about the size of a pig six months old, had not yet acquired its permanent coat; instead of the soot-coloured hair which characterizes the adult tapirs, the coat of this one was striped longitudinally with black, gray, and yellow; from the regularity of these stripes and the brilliancy of their colours it appeared as if the animal was clothed with a garment of striped calico.

After a few hours we became inseparable; it was a good-natured little animal, soft, humble, and caressing, and always ready to testify its gratitude to anyone who would tickle its belly. Its only fault was that it persisted in slobbering over my boots and loosening the strings; but this, if it could be called a fault, was compensated by so many good qualities that I willingly tolerated it. This gentle travelling companion was snatched from my arms by one of the inflexible Parcæ, after a month's acquaintance; when he died within sight of the lake Ega I was occupied with the toilet preparations necessary for my approaching visit to the authorities of the place, and having no time to save the animal's skin for scientific purposes, I threw him with all his decorations into the Amazon, breathing a prayer that the caymans might spare his remains.

On quitting the black waters and splendid forests of the interior the Amazon and its banks appeared to me dull of colour and outline; but Loreto, in particular, struck me as hideous. The chiques and mosquitoes, which I there found more lively and more abundant than ever, still further increased the aversion with which this village had inspired me at first sight.

I have always suspected, with or without reason, that the nine species of mosquitoes that are met with on the Amazon, and which I will name on a future page, have made Loreto, if not the capital of their kingdom, at least the centre of their operations, and the theatre of their greatest exploits. Nowhere, in fact, has the audacity of these winged brigands appeared to me greater, their buzzing more ironical, their bite sharper, their poison more corrosive, or the wound they inflict slower in cicatrizing. The fowls, the ducks, the pigeons, the hoccos, the pauxis, and the agamis, which at Loreto are the messmates of man and form his poultry-yard, would hasten to second my proposition,